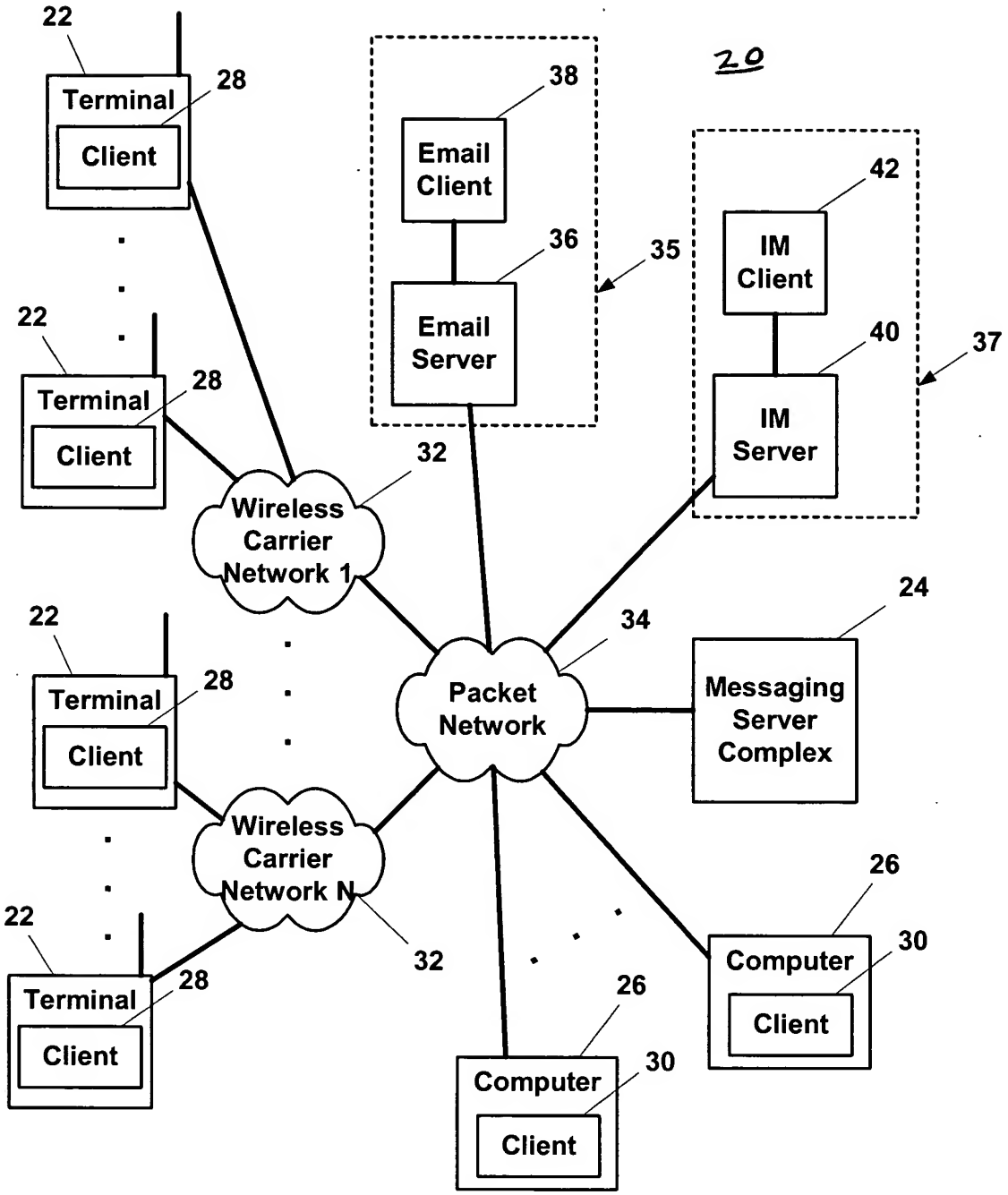

20
22
Terminal
28
Client
38
Email Client
36
Email Server
35
42
IM Client
40
IM Server
37
32
Wireless Carrier Network 1
Wireless Carrier Network N
Packet Network
34
24
Messaging Server Complex
26
Computer
30
Client

FIG. 1

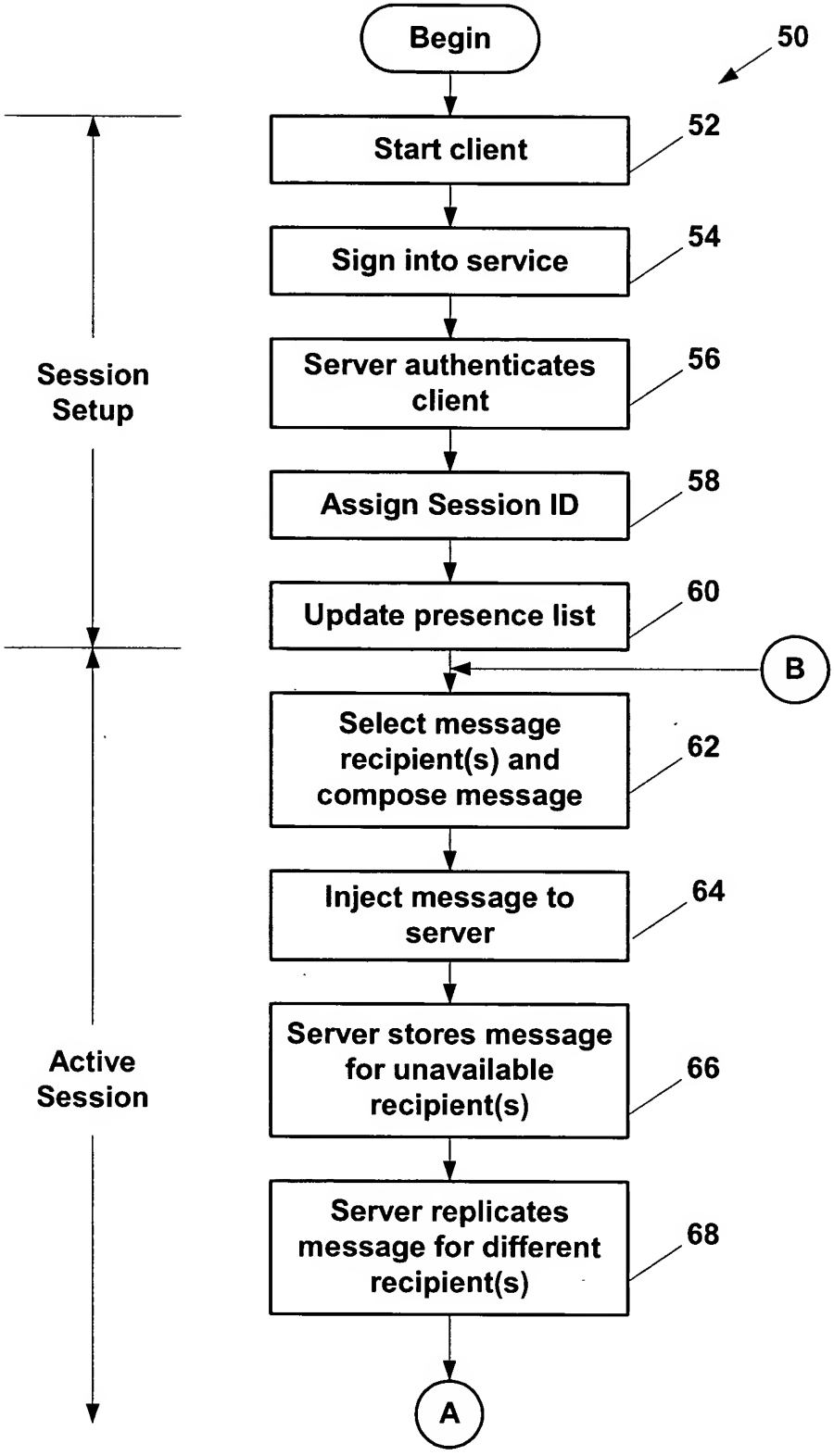

Begin
50
Start client
52
Sign into service
54
Server authenticates client
56
Assign Session ID
58
Update presence list
60
B
Select message recipient(s) and compose message
62
Inject message to server
64
Server stores message for unavailable recipient(s)
66
Server replicates message for different recipient(s)
68
A
Session Setup
Active Session

FIG. 2A

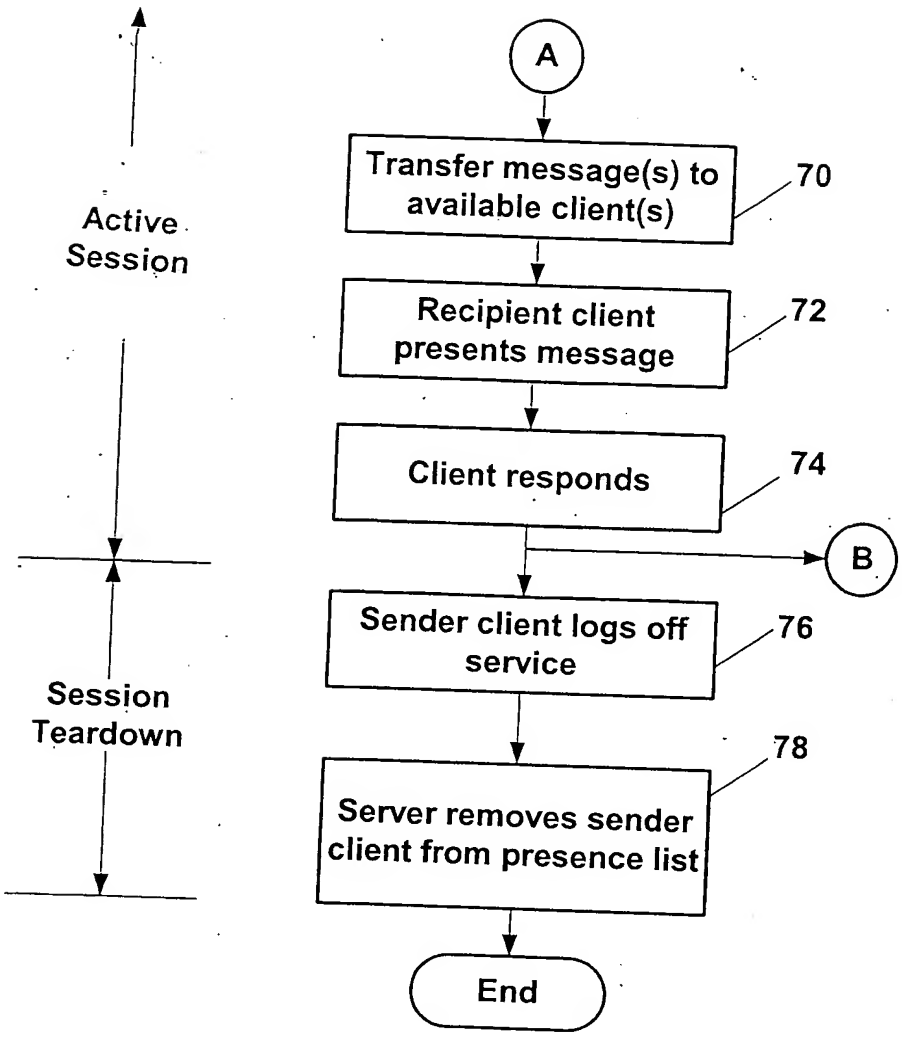

A
Transfer message(s) to available client(s)
70
Recipient client presents message
72
Client responds
74
B
Sender client logs off service
76
78
Server removes sender client from presence list
End
Active Session
Session Teardown

FIG. 2B

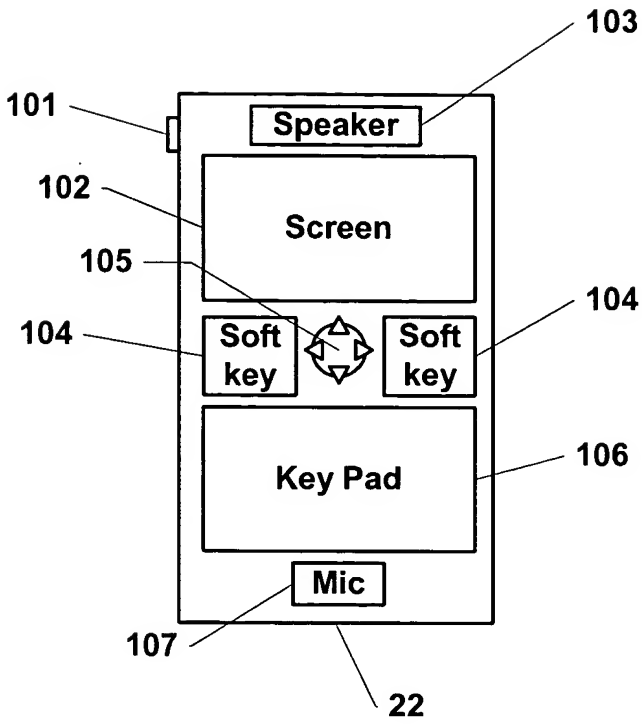

103
101
Speaker
102
Screen
105
104
Soft key
Soft key
104
106
Key Pad
Mic
107
22

FIG. 3

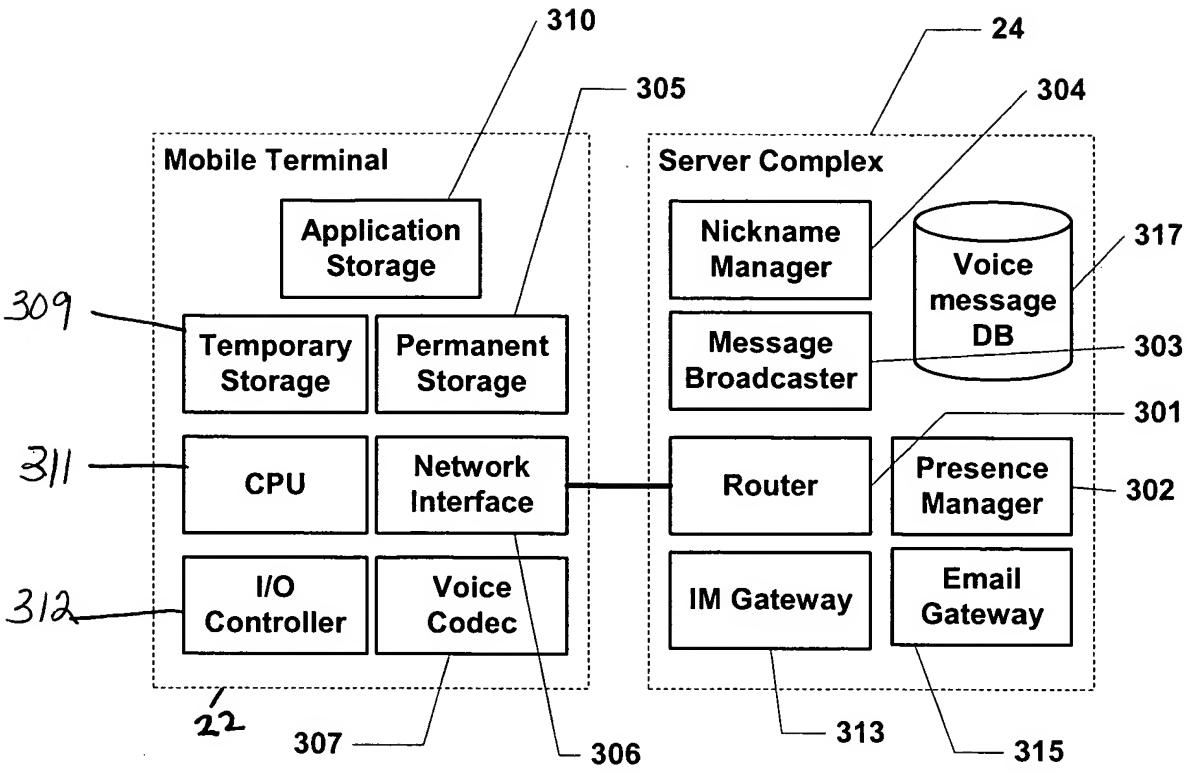

310
24
305
304
Mobile Terminal
Server Complex
Application Storage
Nickname Manager
Voice message DB
317
309
Temporary Storage
Permanent Storage
Message Broadcaster
303
301
311
CPU
Network Interface
Router
Presence Manager
302
312
I/O Controller
Voice Codec
IM Gateway
Email Gateway
22
307
306
313
315

FIG. 4

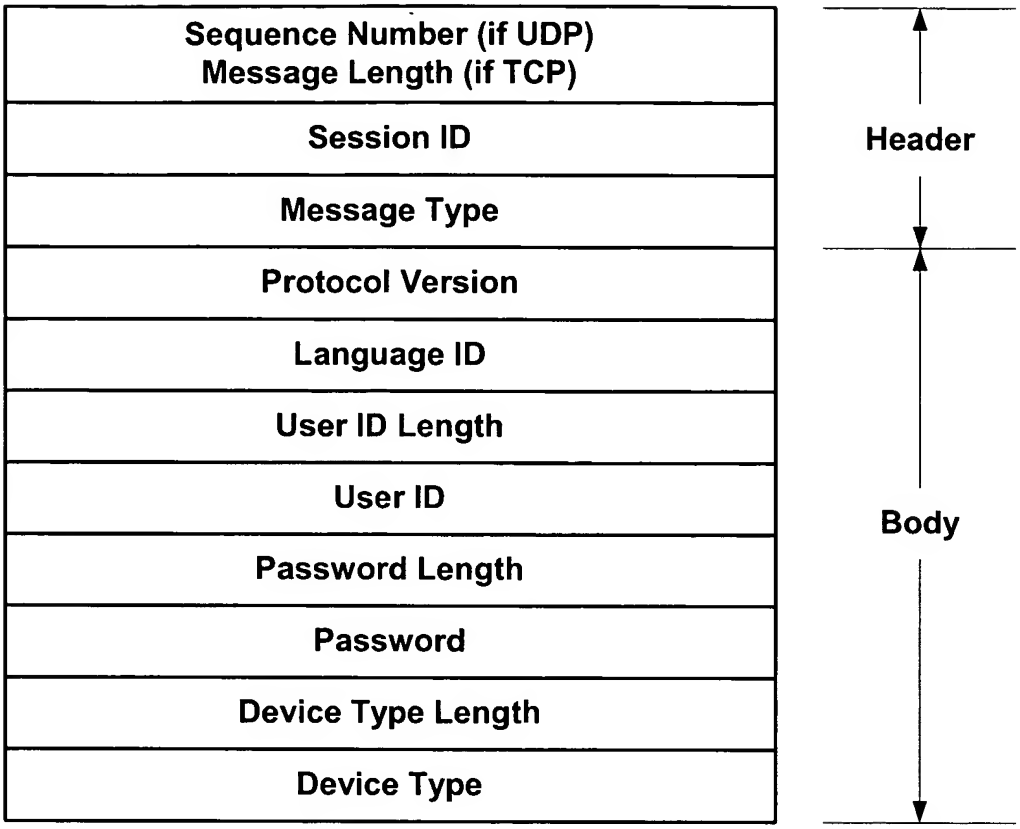

Sequence Number (if UDP)
Message Length (if TCP)
Session ID
Message Type
Protocol Version
Language ID
User ID Length
User ID
Password Length
Password
Device Type Length
Device Type
Header
Body

FIG. 5A

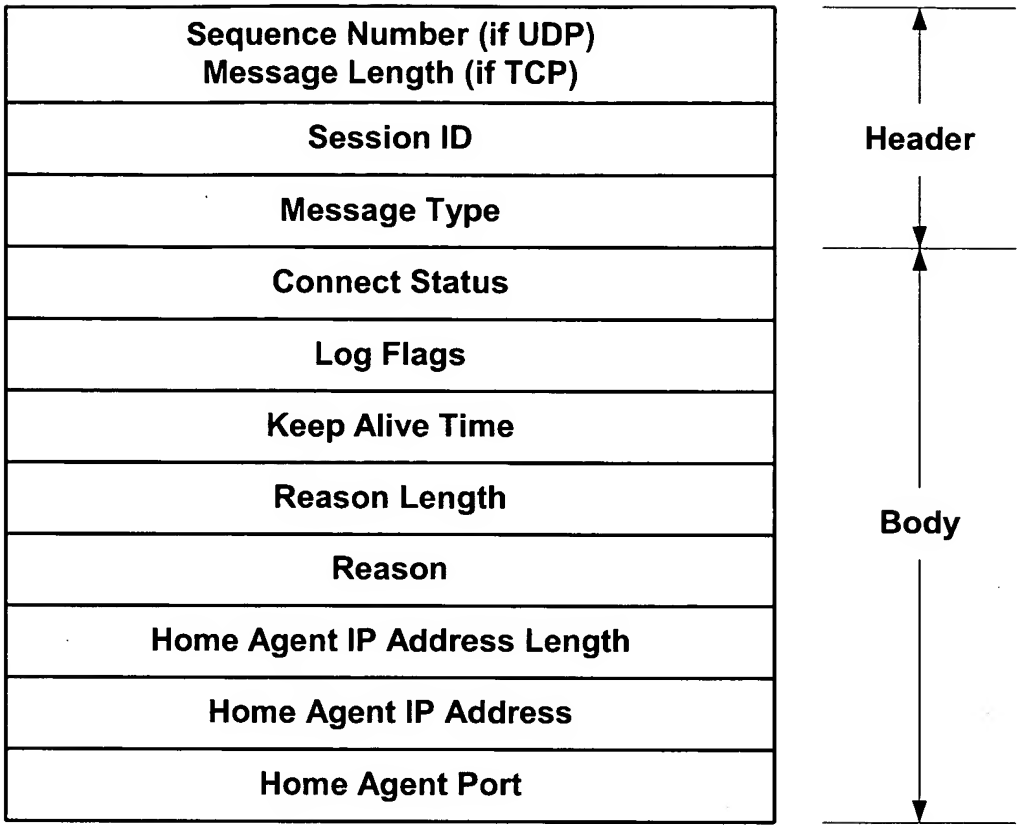

Sequence Number (if UDP)
Message Length (if TCP)
Session ID
Message Type
Connect Status
Log Flags
Keep Alive Time
Reason Length
Reason
Home Agent IP Address Length
Home Agent IP Address
Home Agent Port
Header
Body

FIG. 5B

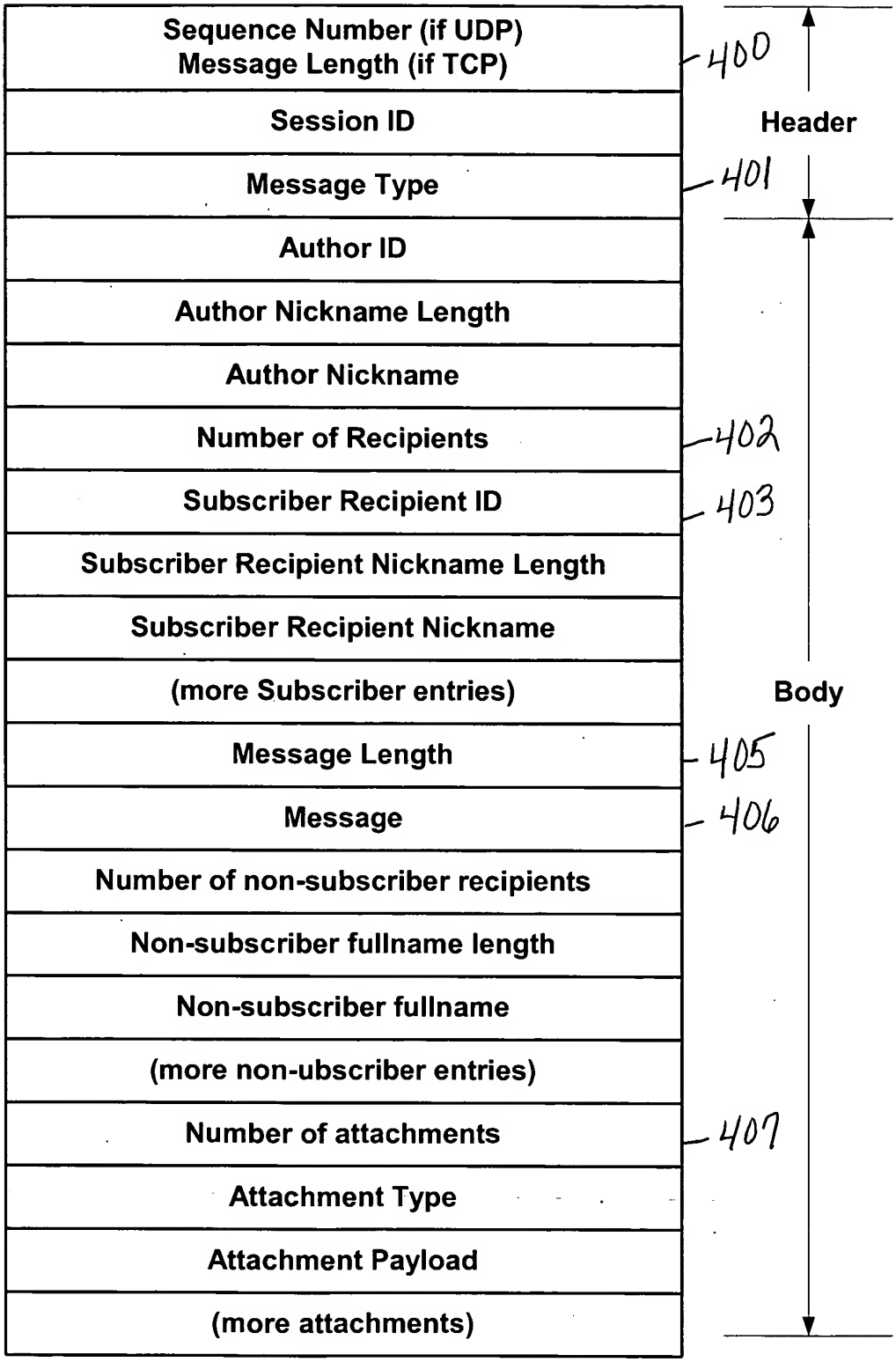

Sequence Number (if UDP)
Message Length (if TCP)
400
Session ID
Header
Message Type
401
Author ID
Author Nickname Length
Author Nickname
Number of Recipients
402
Subscriber Recipient ID
403
Subscriber Recipient Nickname Length
Subscriber Recipient Nickname
(more Subscriber entries)
Body
Message Length
405
Message
406
Number of non-subscriber recipients
Non-subscriber fullname length
Non-subscriber fullname
(more non-ubscriber entries)
Number of attachments
407
Attachment Type
Attachment Payload
(more attachments)

FIG. 6A

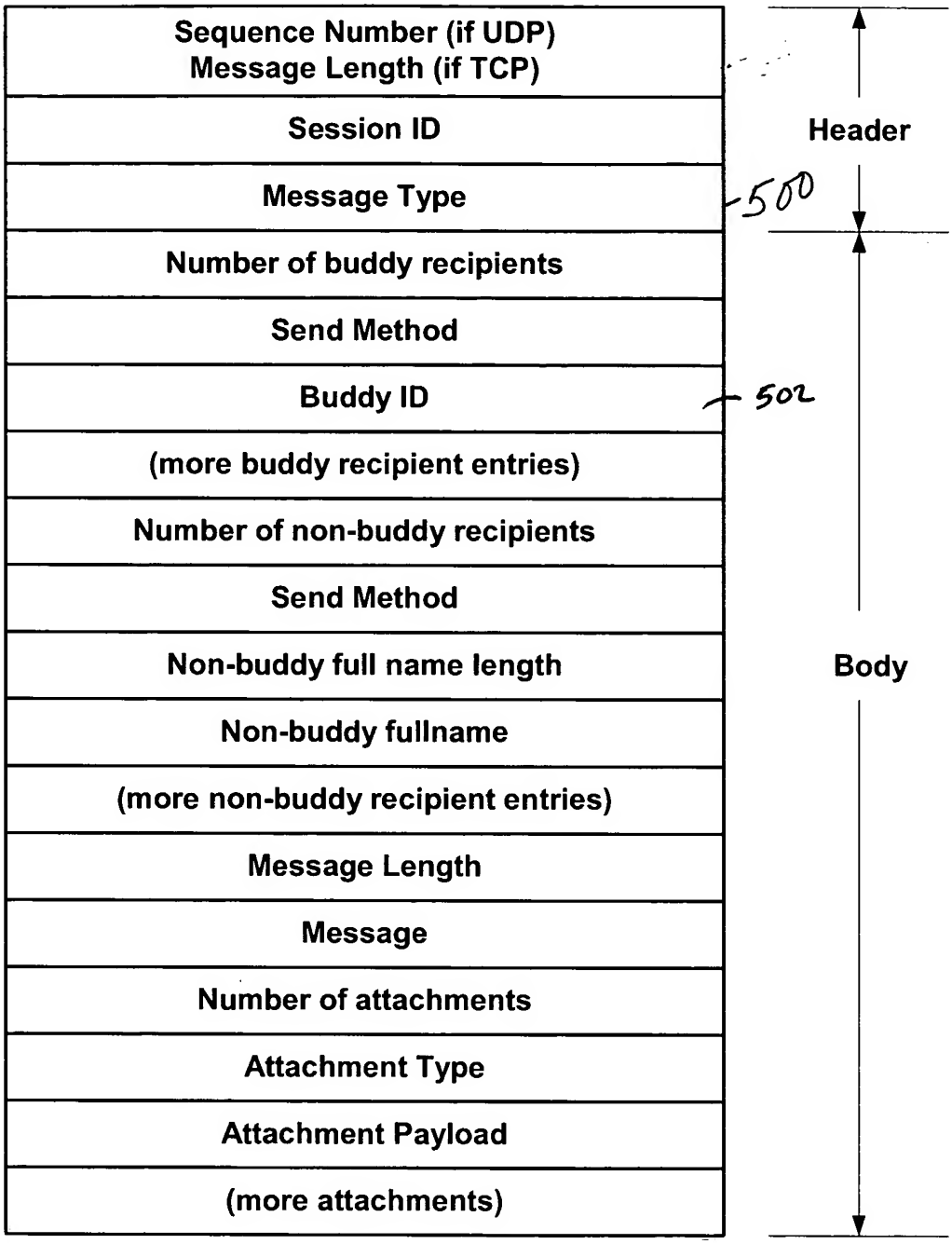

Sequence Number (if UDP)
Message Length (if TCP)
Session ID
Message Type
Number of buddy recipients
Send Method
Buddy ID
(more buddy recipient entries)
Number of non-buddy recipients
Send Method
Non-buddy full name length
Non-buddy fullname
(more non-buddy recipient entries)
Message Length
Message
Number of attachments
Attachment Type
Attachment Payload
(more attachments)
Header
500
502
Body

FIG. 6B

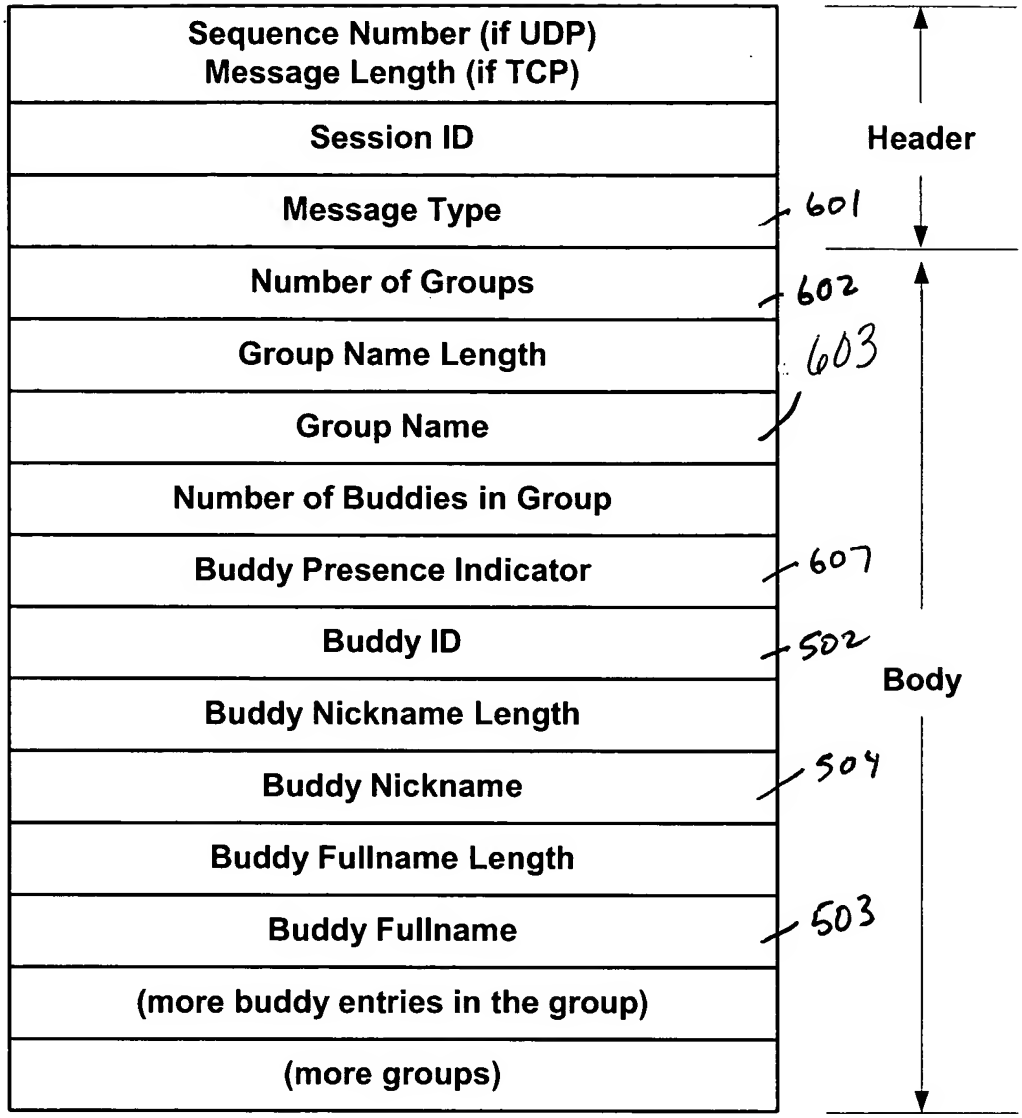
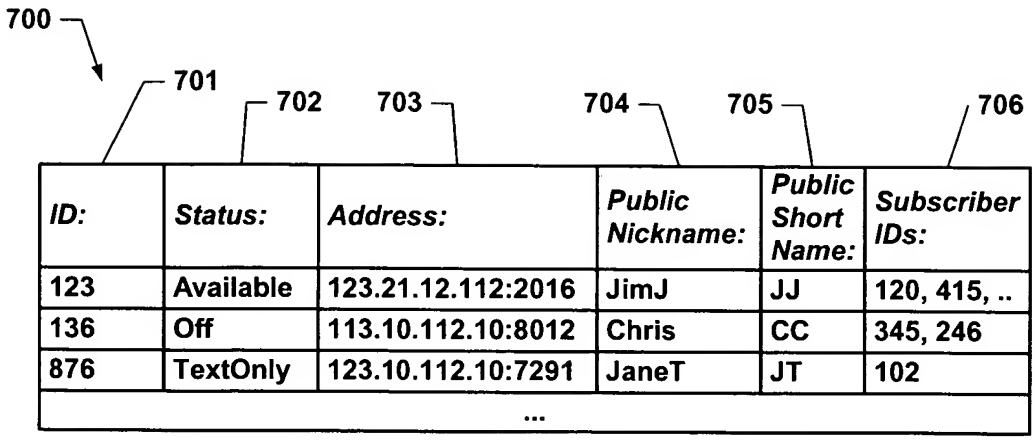
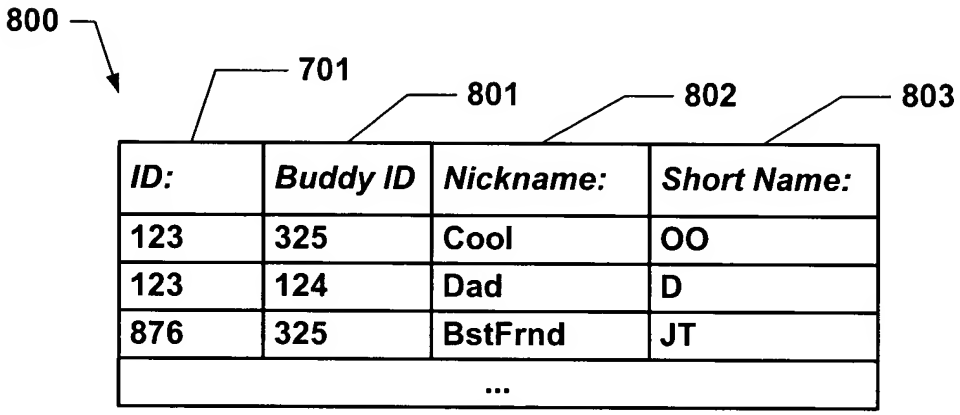

Sequence Number (if UDP)
Message Length (if TCP)
Session ID
Message Type
Number of Groups
Group Name Length
Group Name
Number of Buddies in Group
Buddy Presence Indicator
Buddy ID
Buddy Nickname Length
Buddy Nickname
Buddy Fullname Length
Buddy Fullname
(more buddy entries in the group)
(more groups)
Header
Body
601
602
603
607
502
504
503

FIG. 7



ID:	*Status:*	*Address:*	*Public Nickname:*	*Public Short Name:*	*Subscriber IDs:*
123	Available	123.21.12.112:2016	JimJ	JJ	120, 415, ..
136	Off	113.10.112.10:8012	Chris	CC	345, 246
876	TextOnly	123.10.112.10:7291	JaneT	JT	102
...					

FIG. 8



ID:	*Buddy ID*	*Nickname:*	*Short Name:*
123	325	Cool	OO
123	124	Dad	D
876	325	BstFrnd	JT
...			

FIG. 9

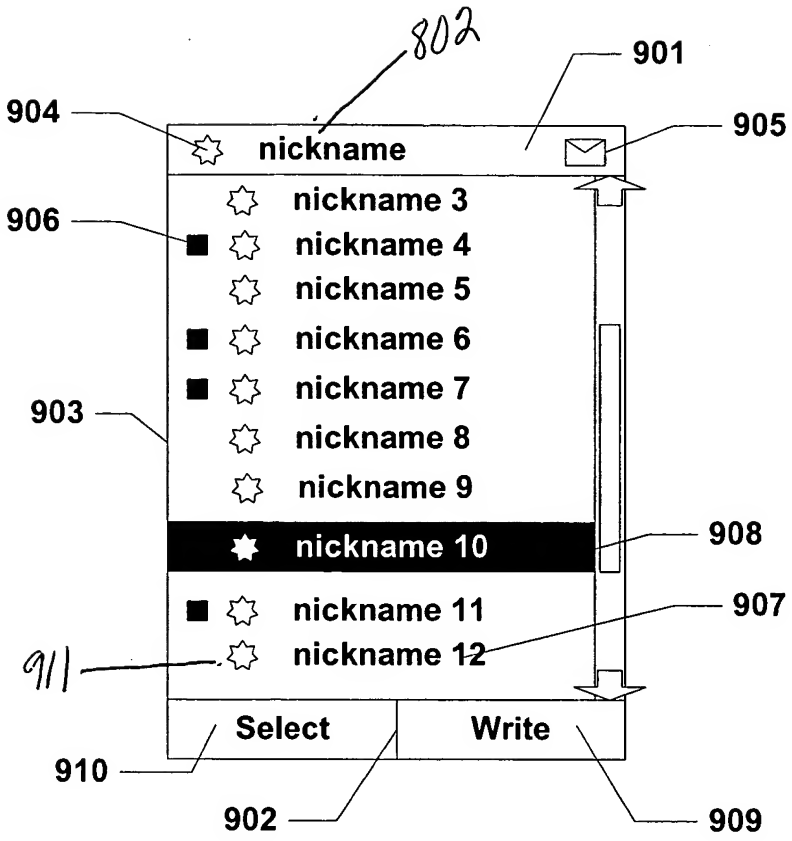

802
901
904
905
nickname
906
nickname 3
nickname 4
nickname 5
nickname 6
nickname 7
903
nickname 8
nickname 9
908
nickname 10
907
nickname 11
911
nickname 12
Select
Write
910
902
909

FIG. 10

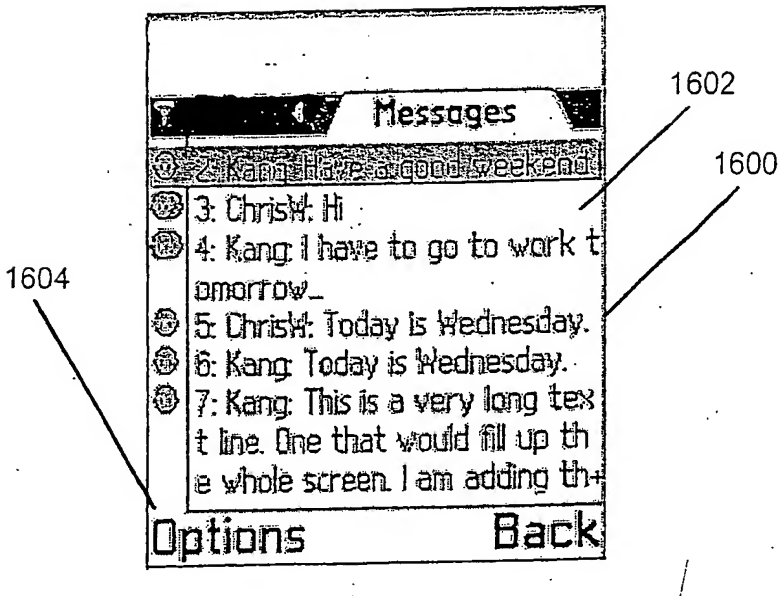

Messages
2: Kang: Have a good weekend
3: ChrisW: Hi
4: Kang: I have to go to work t
omorrow_
5: ChrisW: Today is Wednesday.
6: Kang: Today is Wednesday.
7: Kang: This is a very long tex
t line. One that would fill up th
e whole screen. I am adding th+
Options
Back
1602
1600
1604

FIG. 11

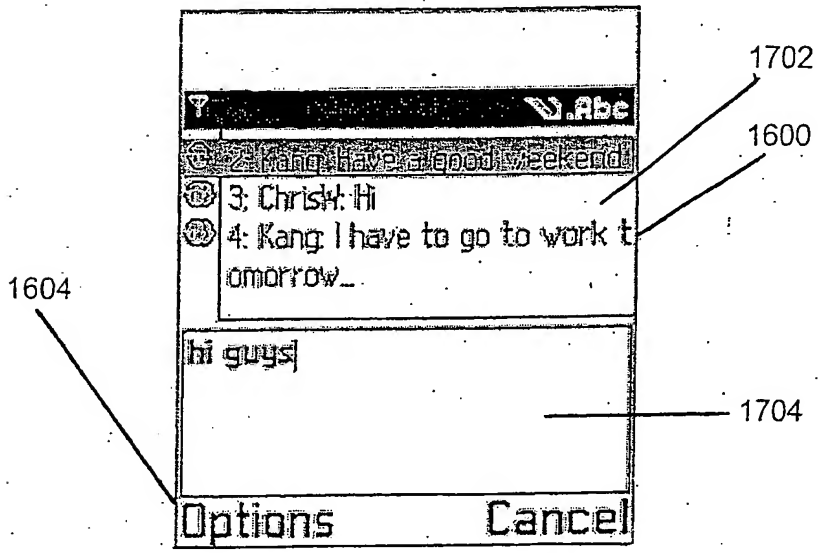

Abc
2: Kang: Have a good weekend
3: ChrisW: Hi
4: Kang: I have to go to work t
omorrow_
hi guys
Options
Cancel
1702
1600
1604
1704

FIG. 12

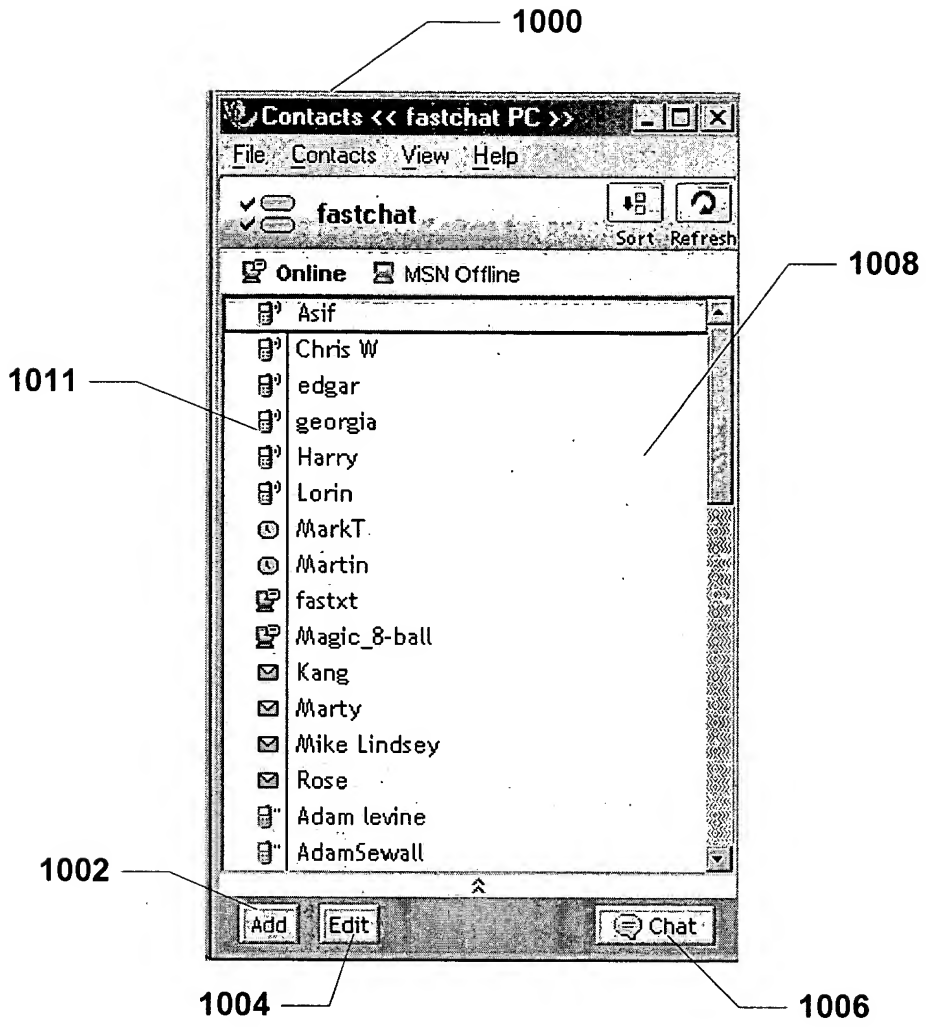

1000
Contacts << fastchat PC >>
File Contacts View Help
fastchat
Sort Refresh
Online MSN Offline
Asif
Chris W
edgar
georgia
Harry
Lorin
MarkT
Martin
fastxt
Magic_8-ball
Kang
Marty
Mike Lindsey
Rose
Adam levine
AdamSewall
Add
Edit
Chat
1008
1011
1002
1004
1006

FIG. 13

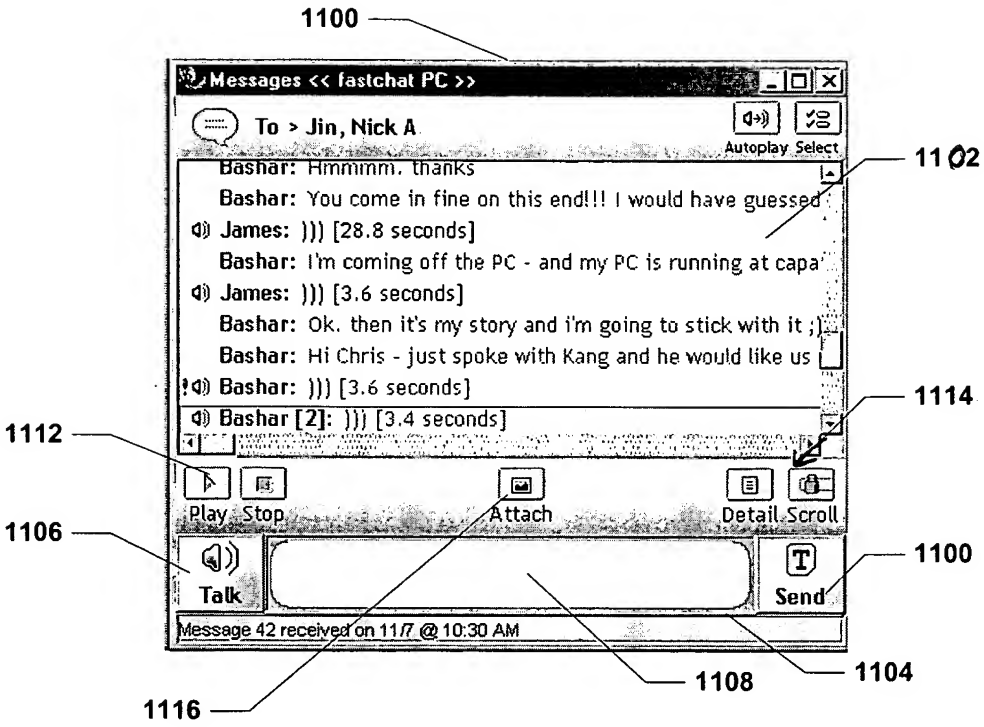

1100
Messages << fastchat PC >>
To > Jin, Nick A
Autoplay
Select
Bashar: Hmmmm. thanks
Bashar: You come in fine on this end!!! I would have guessed
James:))) [28.8 seconds]
Bashar: I'm coming off the PC - and my PC is running at capa
James:))) [3.6 seconds]
Bashar: Ok. then it's my story and i'm going to stick with it ;)
Bashar: Hi Chris - just spoke with Kang and he would like us
Bashar:))) [3.6 seconds]
Bashar [2]:))) [3.4 seconds]
1102
1114
1112
1106
Play
Stop
Attach
Detail
Scroll
Talk
Send
1100
Message 42 received on 11/7 @ 10:30 AM
1116
1108
1104

FIG. 14